1097-93-181   **Louis Tebou*** (`teboul@fiu.edu`), Department of Mathematics and Statistics, Florida
International University, Miami, FL 33199. *Simultaneous controllability of some uncoupled
semilinear wave equations.* Preliminary report.

We consider the controllability problem for some uncoupled semilinear wave equations with proportional, but different
principal operators in a bounded domain. The control is locally distributed, and its support satisfies the geometric control
condition of Bardos-Lebeau-Rauch. First, we examine the case of a nonlinearity that is asymptotically linear; using a
combination of the Bardos-Lebeau-Rauch observability result for a single wave equation and a new unique continuation
result for uncoupled wave equations, we solve the underlying linear control problem. The linear controllability result
thus established, generalizes to higher space dimensions an earlier result of Haraux established in the one-dimensional
setting. Then, applying a fixed point argument, we derive the controllability of the nonlinear problem. Afterwards, we
use an iterative approach to prove a local controllability result when the nonlinearity is super-linear. (Received January
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